Review of available information on non-key shark species including mobulids and fisheries interactions

WCPFC-SC12-2016/ EB-WP-08

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Context

- 2015 Shark Research Plan mandated a review of the available data for non-key sharks (elasmobranchs)

- SC 11 'requests that SPC be tasked with reviewing available information on mobulid species (mantas and devil rays) and their interactions with fisheries managed by the WCPFC and prepare a paper for SC12 for consideration of these species for designation as WCPFC key sharks.'
    – Designation tables included in Appendix II, based on process outlined in WCPFC Key Document SC-08
    – Accessible online: https://www.wcpfc.int/system/files/Key-Doc-SC-08-Process-Designation-Key-WCPFC-Shark-Species.pdf
    – "Proposed key shark species should be chondrichthyan (shark, skate, ray or chimaera) and taxa whose documented range includes habitats within the WCPF Convention Area." (WCPFC-SC-08)

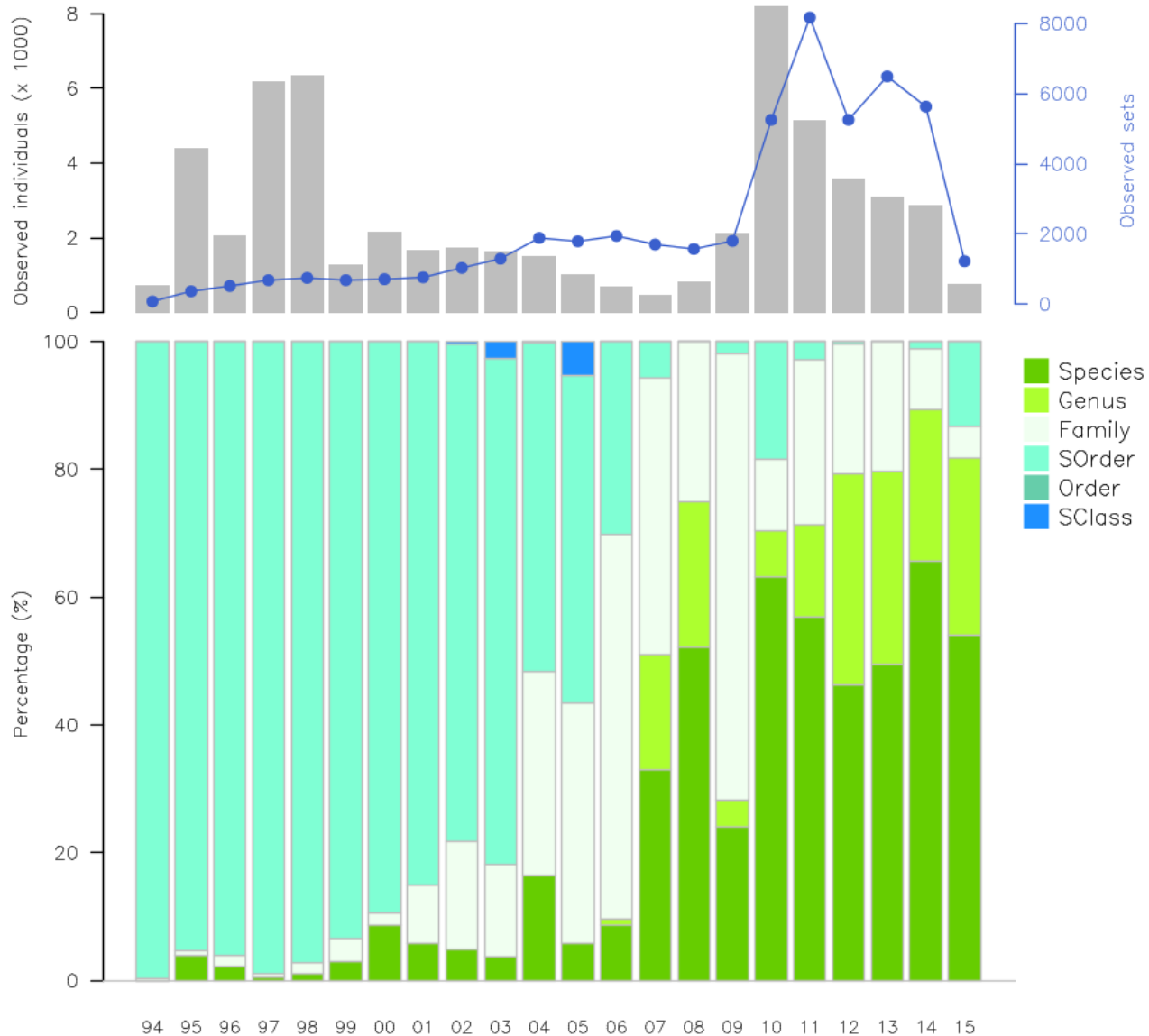# Key sharks make up about 85-90% of the elasmobranch catch
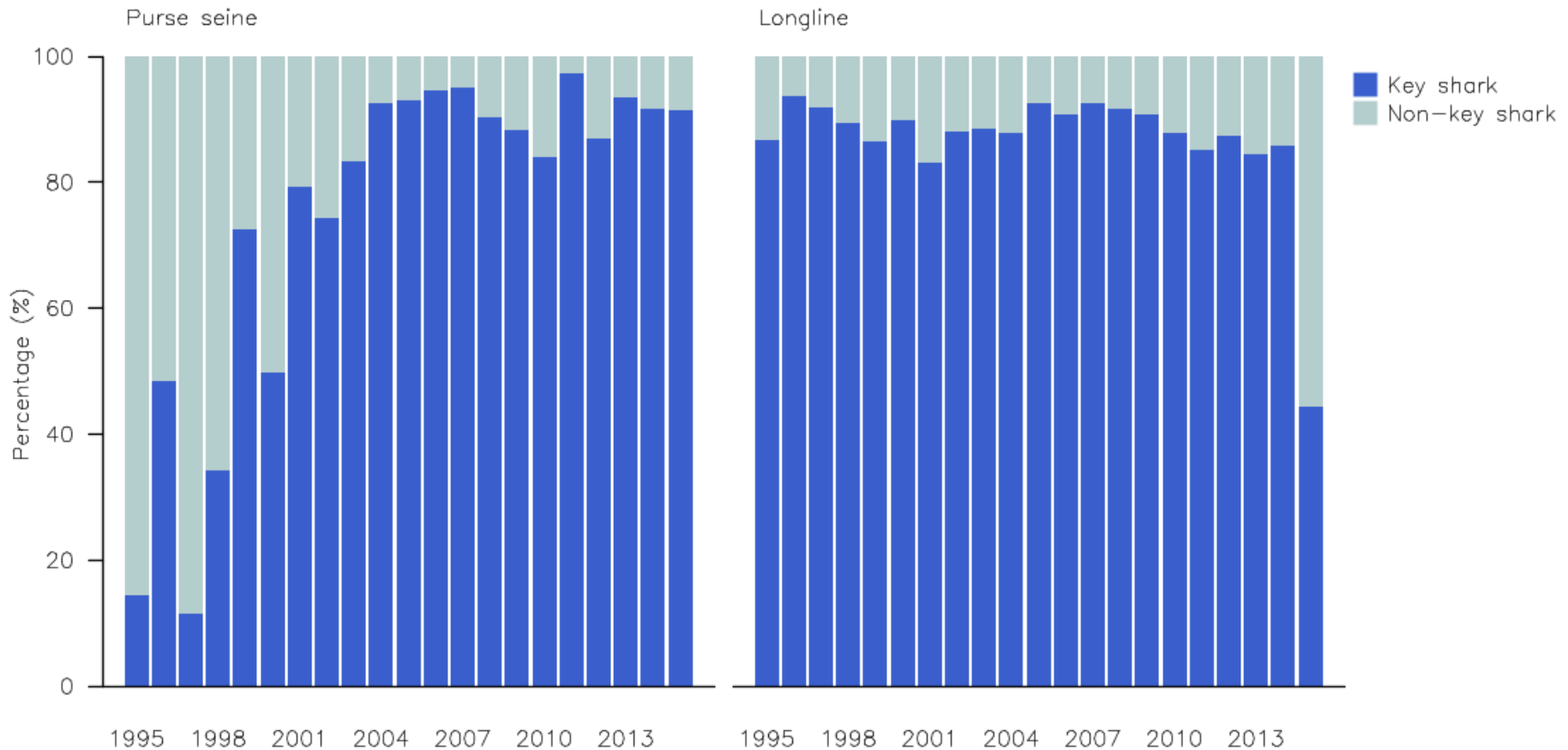
Review of the available data for non-key sharks

- Using data from SPC observer data holdings, 1995 to 2015
- Temporal/spatial trends standardized for observer coverage
- Summary of taxonomic level of reporting
- Appendix I:
  - Catch rates by target species
  - Distribution maps*
  - CPUE*
- Status of measured variables: fate, condition and length
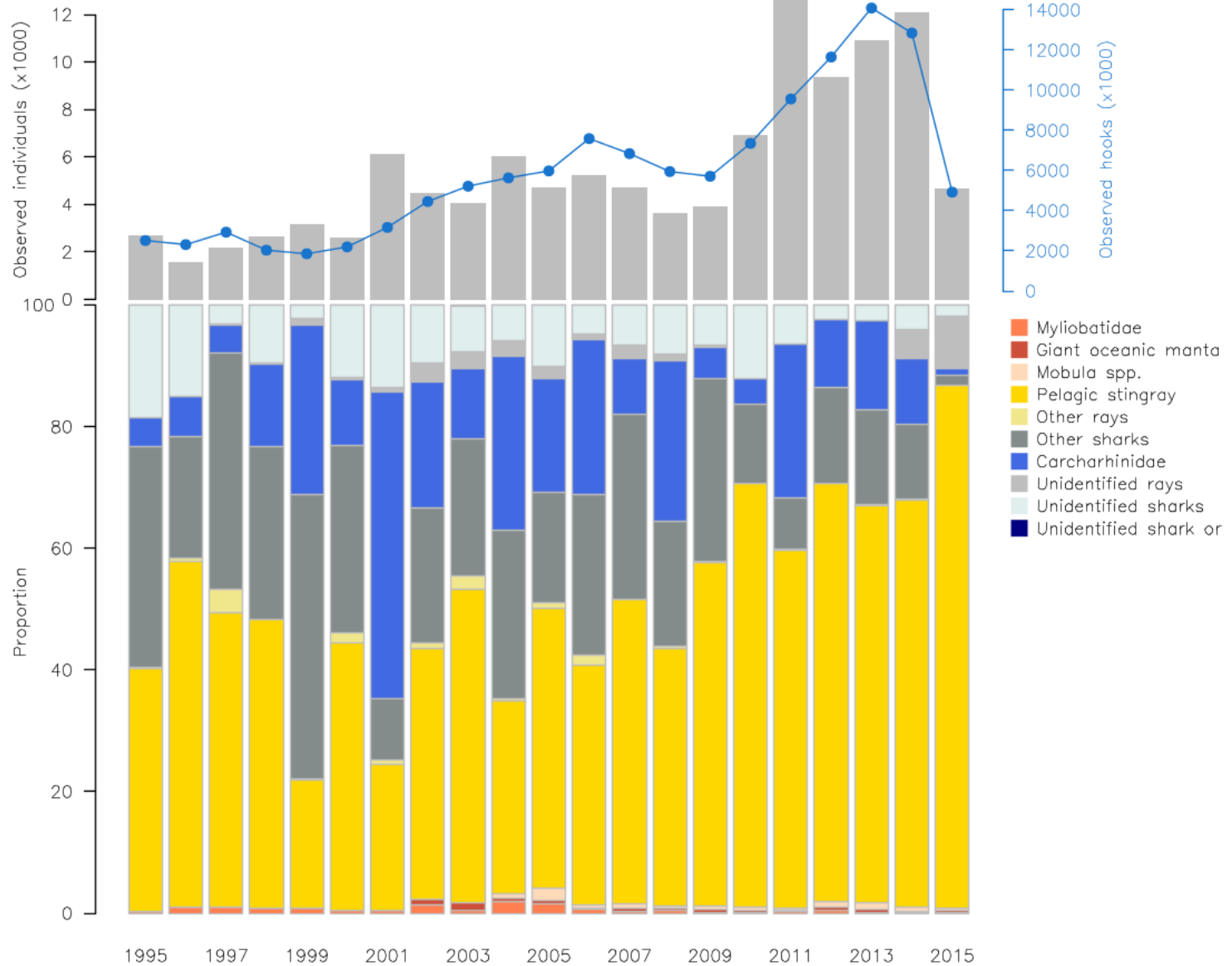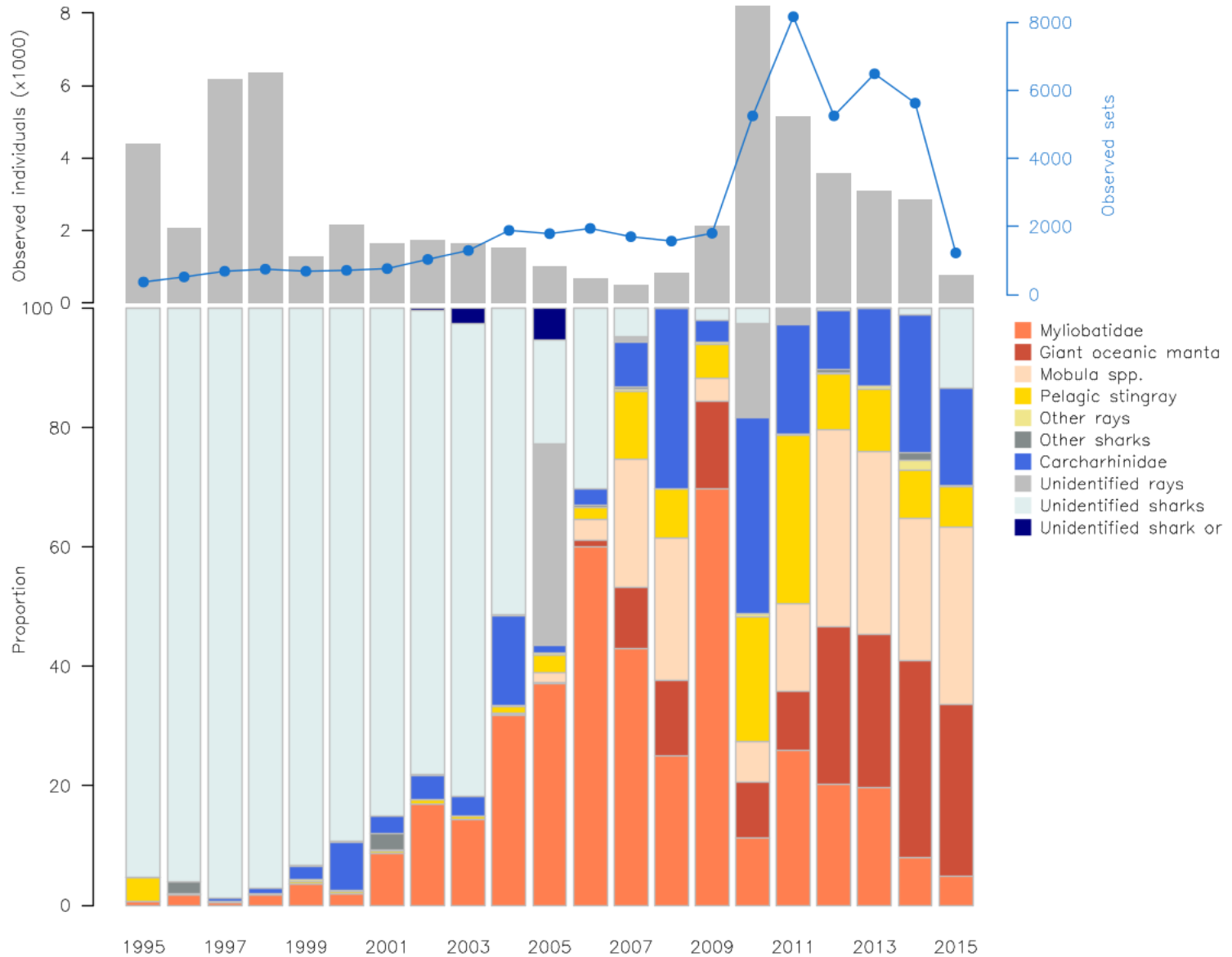
Longline: taxonomic resolution of observations
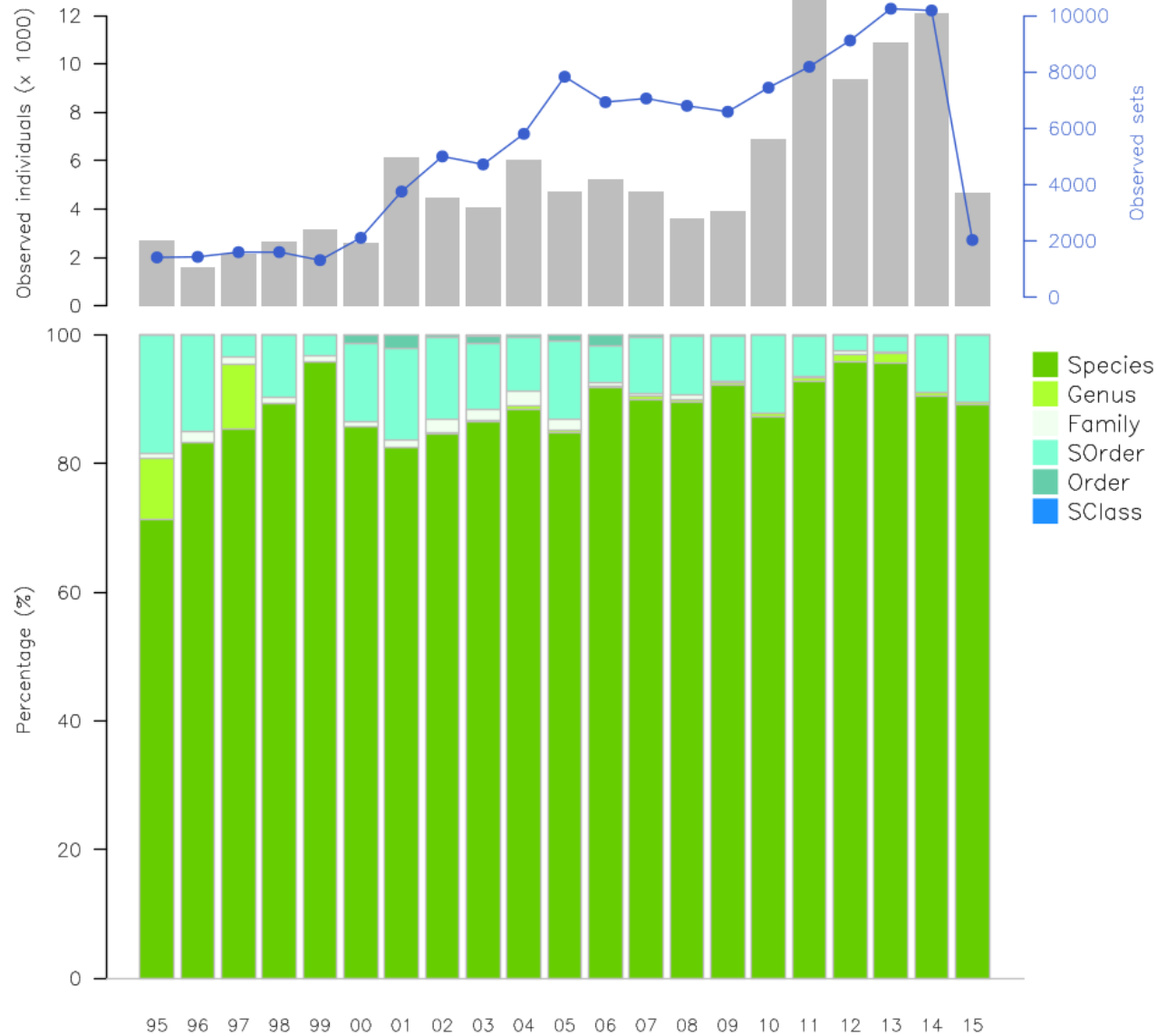
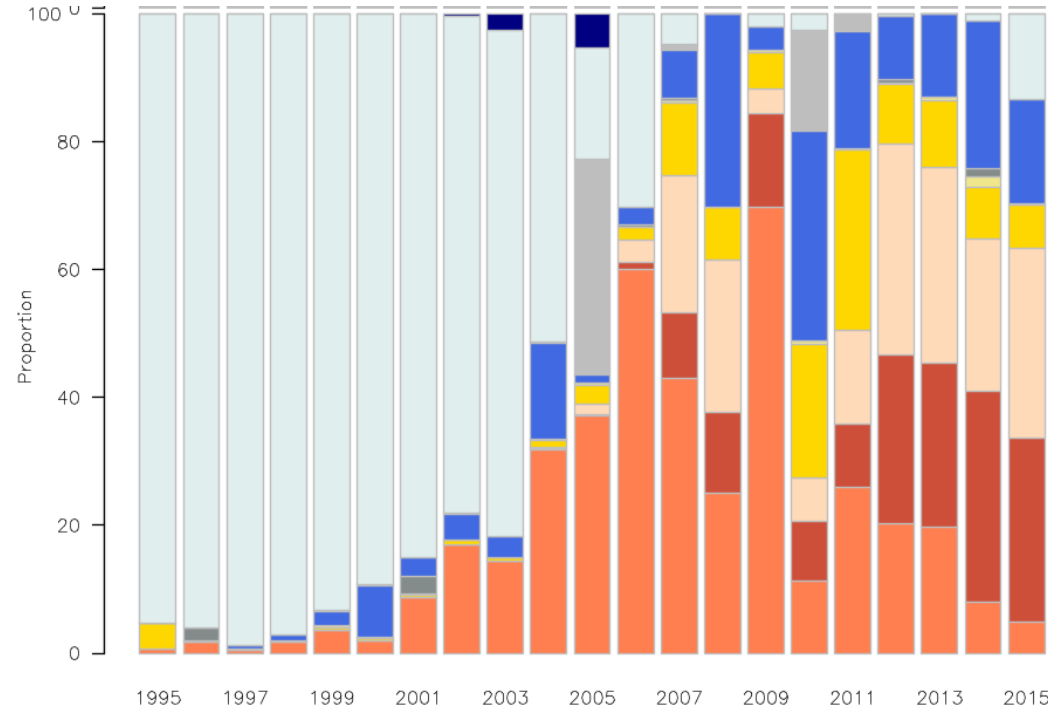# Purse seine: taxonomic resolution of observations

Longline: main groups observed

Purse seine: main groups observed

Legend:
- Myliobatidae
- Giant oceanic manta
- Mobula spp.
- Pelagic stingray
- Other rays
- Other sharks
- Carcharhinidae
- Unidentified rays
- Unidentified sharks
- Unidentified shark or
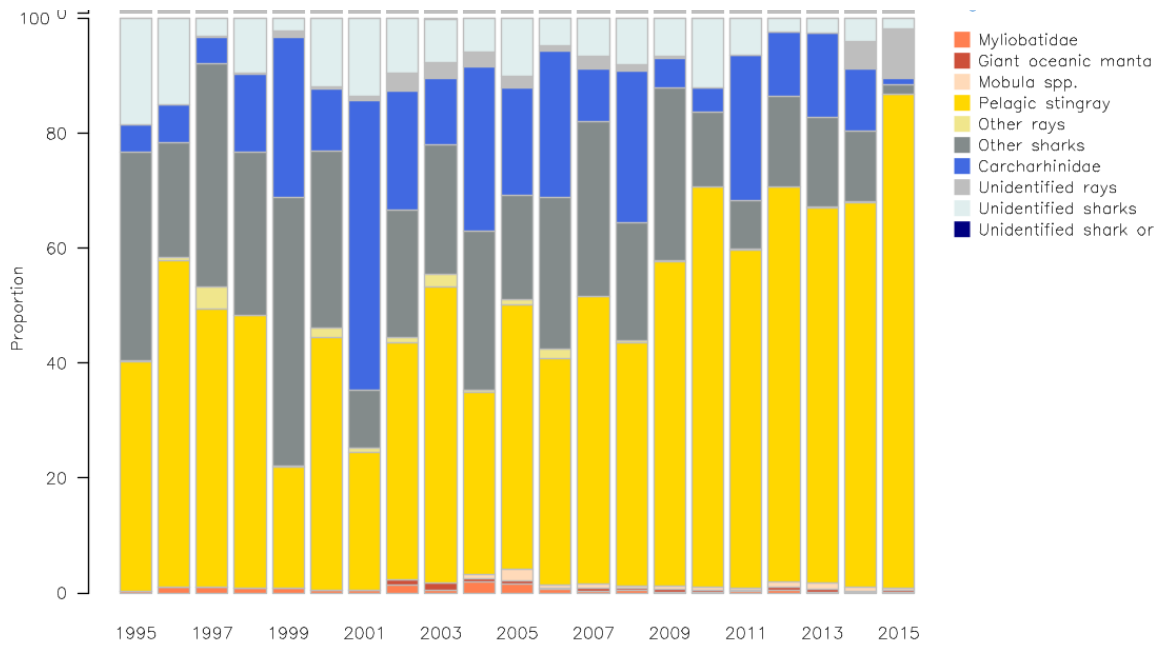
Longline: reported fate over time

Longline: reported condition at capture

Condition when first observed

Longline: reported condition at discard

Condition when discarded

Longline:
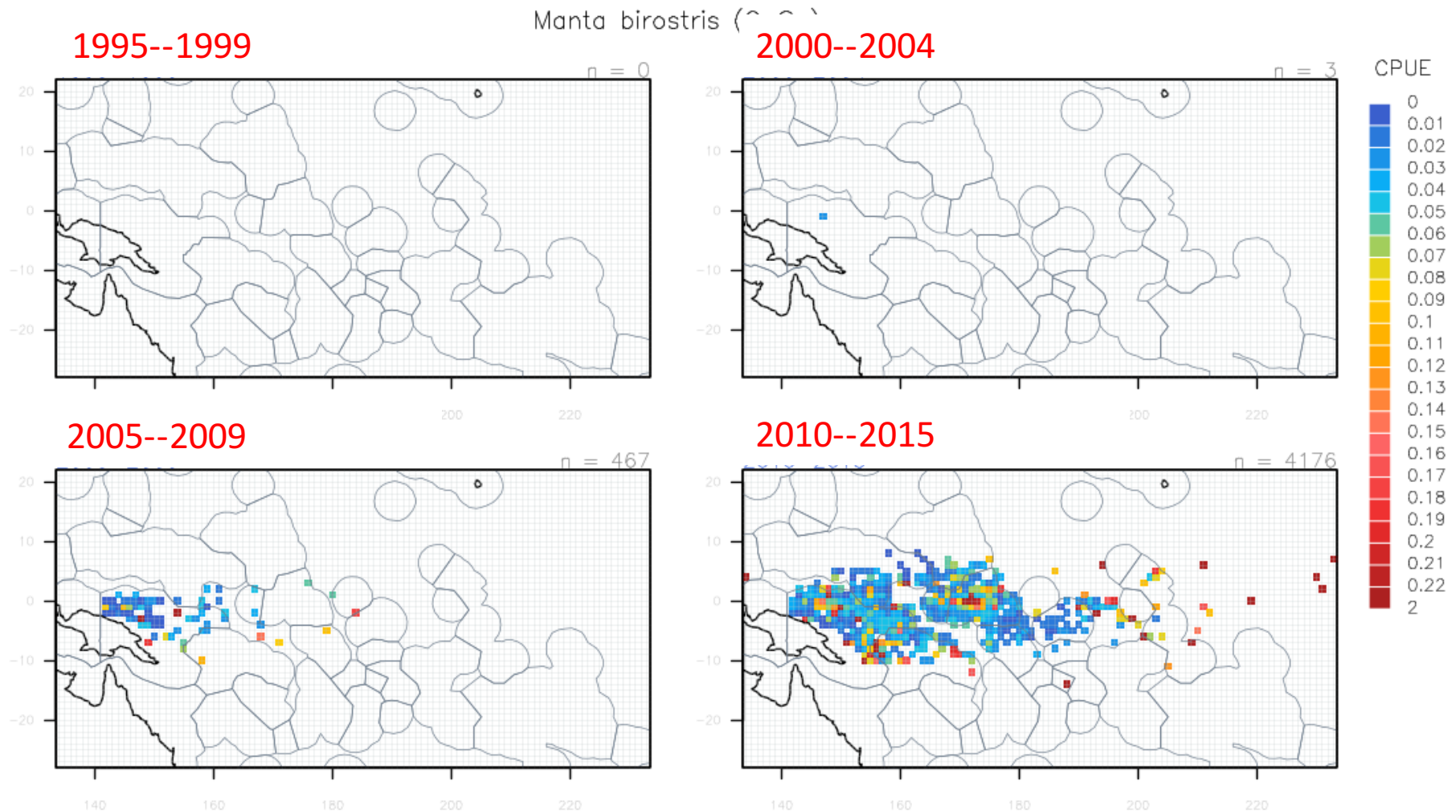# type of length measurement for sharks
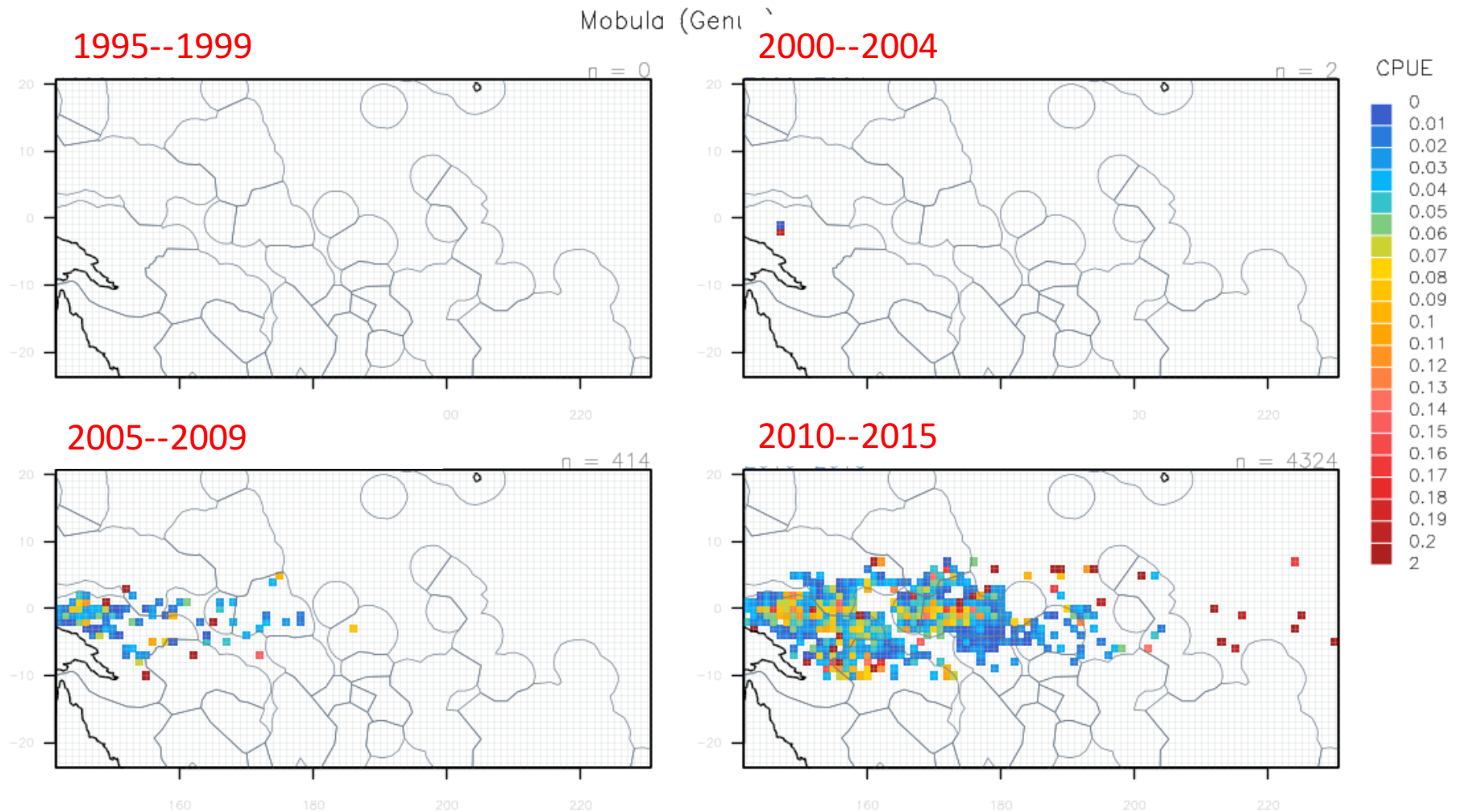
Longline:
type of length measurement for rays
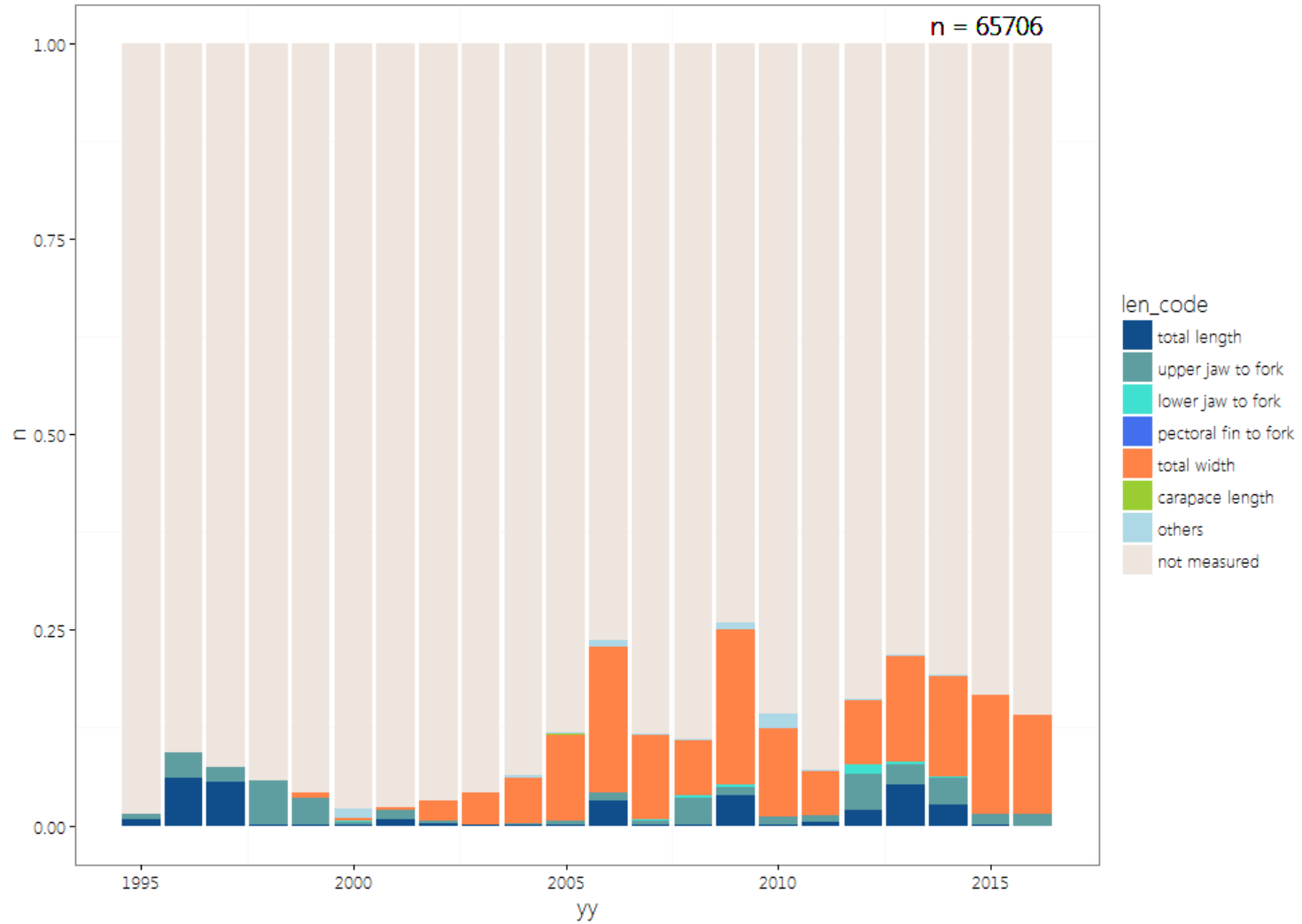
Focus on rays

- *Manta birostris*
- *Mobula sp.*
- *Pteroplatrygon violacea*

- Observed spatial distribution of catches in 5 years intervals
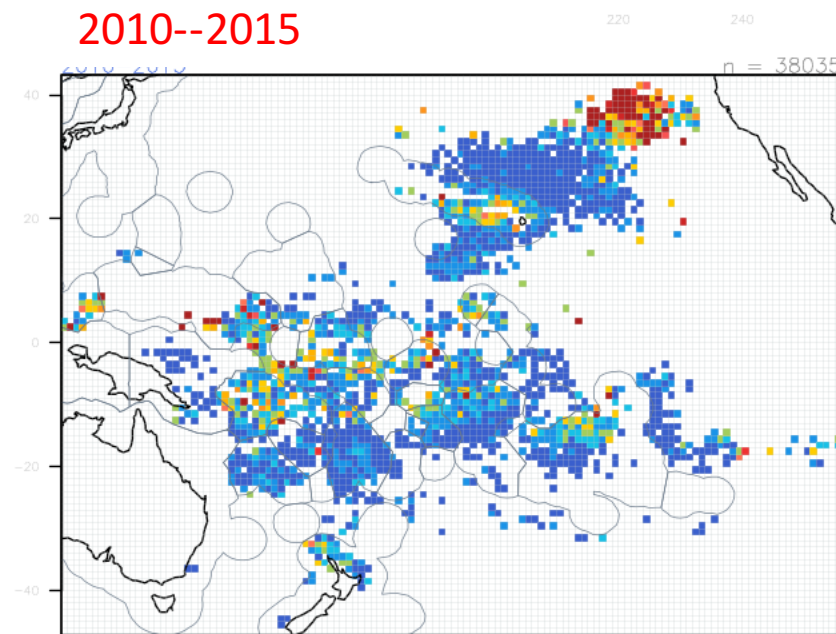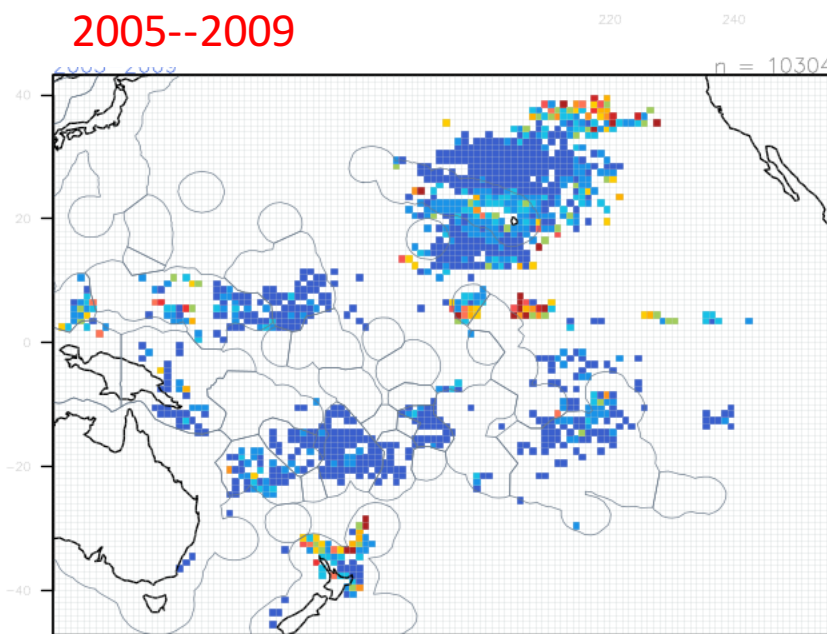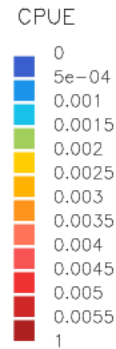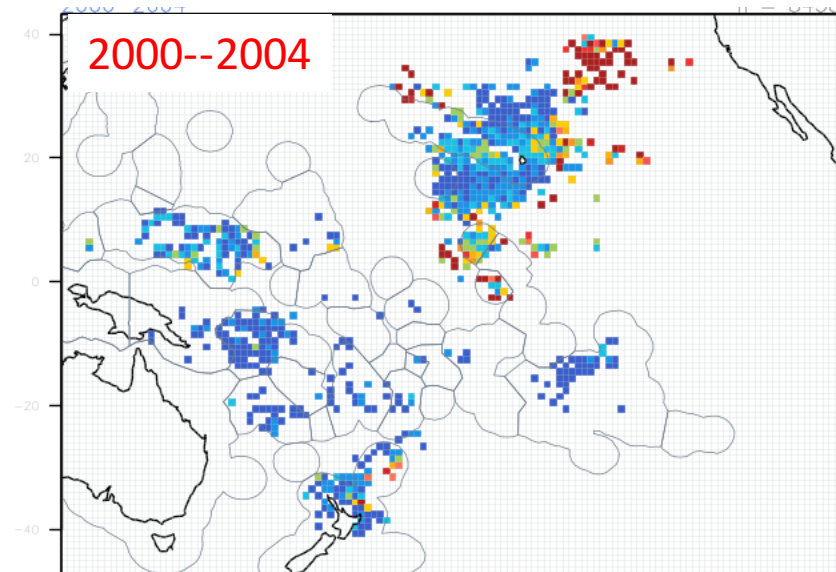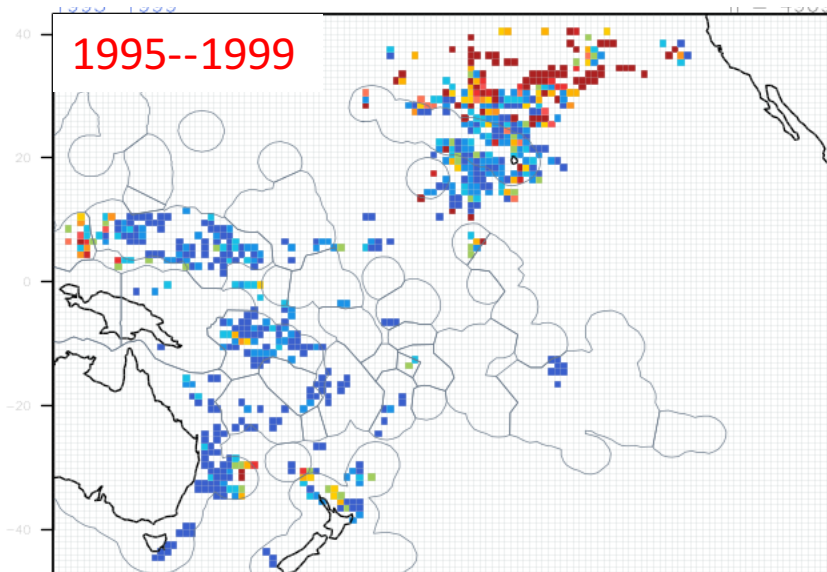- CPUEs by fleet/targeting species

Purse seine: observed catch rates for *M. birostris*

Purse seine: observed catch rates for *Mobula sp.*

Longline: observed catch rates for *P. violacea*

Key shark designation tables

- For *Manta*, *Mobula* sp. and *P. violacea** we compiled tables of the assessment criteria to designate each as a key shark species in the Western and Central Pacific Ocean.
- Reporting requirements for species designated as key sharks:
  - recording catch in logbooks
  - fate information (e.g. retained or discarded)

- Given the current management regime, perceived stock status, ease of identification and wide distribution through the WCPO, listing *Manta birostris & P. violacea* as a key shark species could enhance their management by the WCPFC.

- Enhanced reporting is unlikely to lead to better species-specific information for Mobula sp. in the short-term. We suggest not listing them but rather increase observer training to identify them.

* Included due to frequency in catch, not as a request

Recommendations

- A review of conversion factors to assess what length-length and length-weight conversion factors exist, to add existing conversion factors to the SPC database

- Purse seine observer training programmes add emphasis to *Mobula* identification as part of their curricula

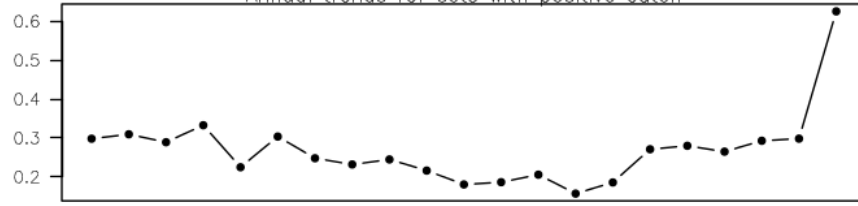General recommendations for enhancing the key shark designation table:

- In future key shark species designation assessments tables include "Is the management of _____ likely to be enhanced by having it listed as a WCPFC key shark species?"

- In future key shark species designation assessments include "SCxx recommends that WCPFCyy *list/does not list* _____ as a key shark species".

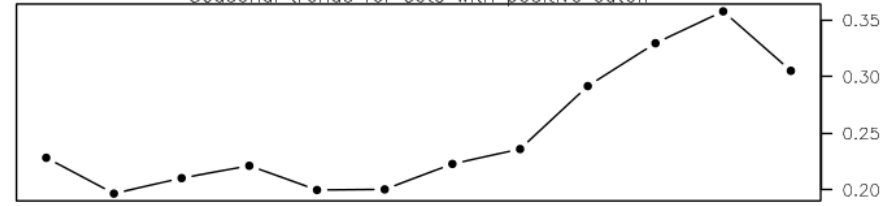# Purse seine observed CPUE (# ind/sets)
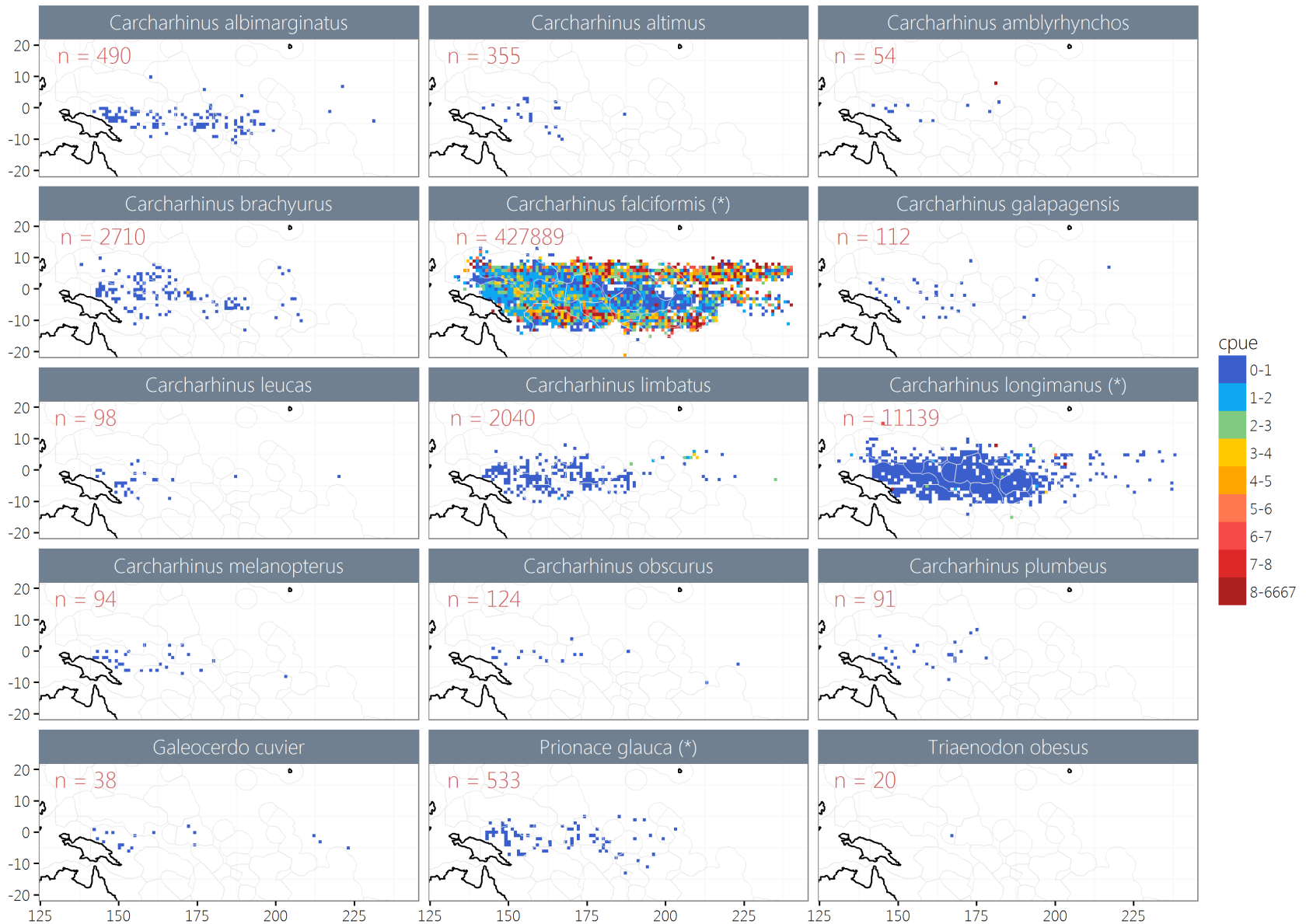
Pteroplatytrygon violacea (n=61573)